

New ClaimsI. Claim 109

New independent claim 109 includes a combination of the subject matter of original independent claim 1 and dependent claim 5. In section 10 of the Office Action, dependent claim 5 was rejected under 35 U.S.C. §103 as being obvious over Pyle or Fleischmann in view of U.S. Patent No. 6,361,198 to Reed (hereinafter Reed). The Applicants traverse this rejection. Accordingly, the Applicant discusses the patentability of independent claim 109 by addressing the rejection of dependent claim 5 as set forth in the Office Action.

Claim 109 recites “A system for preparing a lighting sequence, comprising [*inter alia*]: a processor coupled to [a] display interface and supporting a sequence authoring interface adapted to permit a user to select at least one lighting effect and at least one lighting unit ... wherein the at least one lighting unit includes at least one LED lighting unit capable of emitting light of a first color and light of a second color, and mixing the light of the first color and the light of the second color, so as to emit a light output of any of a range of different colors during execution of the at least one lighting effect.”

The Office Action alleges that Fleischmann relates generally to lighting control systems (col. 1, lines 6-7). The Office Action further alleges that Fleischmann teaches selecting color lighting effects (col. 9, lines 36-47). The Office Action also asserts that Pyle teaches a system for controlling environmental conditions such as lighting.

The Office Action concedes that Fleischmann and Pyle fail to teach a system wherein the lighting unit includes an LED capable of emitting light of any of a range of different colors. In fact both Pyle and Fleischmann completely fail to disclose or suggest a system for preparing a lighting sequence, comprising *inter alia* a processor coupled to the display interface and supporting a sequence authoring interface adapted to permit a user to select at least one lighting effect and at least one lighting unit wherein the at least one lighting unit includes at least one LED lighting unit capable of emitting light of a first color and light of a second color, and mixing the light of the first color and the light of the second color, so as to emit a light output of any of a range of different colors during execution of the at least one lighting effect, as recited in claim 109.

However, the Office Action alleges that, in the title and abstract, Reed discloses a method and system for preparing a light sequence capable of being executed by a controller wherein a lighting unit includes at least an LED capable of emitting light of any of a range of different colors, and wherein a sequence authoring interface is adapted to permit a user to select a color of light emitted by the LED (col. 3, lines 25-57 of Reed). The Office Action then alleges that one of ordinary skill in the art would have been motivated to combine either Fleischmann or Pyle with Reed because Reed teaches an interactive light display that uses a computer to allow display routines to be conveniently custom designed and easily exchanged and downloaded from the Internet (col. 2, lines 1-16 of Reed). The Applicants respectfully disagree with the foregoing assertions.

Reed is directed to a light display in the form of a Christmas tree (col. 3, lines 50-51), in which bunches of fiber optic strands extend from LEDs that are positioned on the branches of the tree (col. 4, lines 3-6). Reed discloses that an advantage of such a tree is that less fiber is used when compared to conventional Christmas trees in which lights are placed in the base of the tree (col. 1, lines 38-42; col. 2, lines 39-45). Reed also discloses a computer with a monitor for controlling and viewing the control of the tree (col. 3, lines 53-55).

As discussed above, MPEP § 2143 sets forth three criteria must be met in order to establish a *prima facie* case of obviousness: (I.) there must be some motivation, either in the cited references or in the knowledge generally available to one of ordinary skill in the art, to modify the references or combine reference teachings; (II.) the references must teach or suggest all of the claimed features; and (III.) there must be a reasonable expectation of success. The teaching or suggestion to modify the references, as well as the reasonable expectation of success, must both be found in the prior art and not based on Applicants' disclosure.

The Applicants respectfully submit that the combinations of Pyle and Reed, and Fleischmann and Reed are improper, because at least the first obviousness criterion set forth in MPEP § 2143, namely a motivation to combine reference teachings, is completely lacking.

A. The Combination of Pyle and Reed is Improper

Pyle discloses a system for controlling conditions in an environment, such as lighting conditions, for example, in an office. The system retrieves data structures that define target states for selected lights in the environment (abstract). The system receives an input from a user interface and, in response, controls the lights to attain target states of the lights corresponding to the user input (abstract).

Nowhere in Reed or Pyle is it suggested that a fiber optic illumination device as disclosed in Reed should replace office lights as disclosed in Pyle to overcome the Office Action's stated deficiency of Pyle. In fact, Pyle discloses nothing more than conventional white light fixtures; and Reed only suggests that fiber optic illumination devices are advantageous for use in Christmas trees, where such fiber optic illumination devices permit LED illumination sources to be located in the branches of the Christmas tree, such that less fiber is used than in conventional trees where the illumination sources are located in the base of the tree.

Therefore, the combination of Pyle and Reed is improper because there is lack of motivation to modify Pyle in the manner suggested in the Office Action. As such, the combination of Pyle and Reed fails the first criterion for establishing *prima facie* obviousness according to MPEP §2143. Therefore claim 109 is patentable over the combinations of Pyle and Reed.

A. The Combination of Fleischmann and Reed is Improper

Fleischmann discloses a lighting control system for controlling multiple lighting loads (i.e., lights) for illuminating one or more rooms or floors of an office (col. 2, line 60 et., seq.). Fleischmann discloses that the system permits a user to control the light throughout an office building from his or her desk (col. 2, lines 52-54). The control system includes a display that presents selectable representations of lighting loads in the office building (abstract). A particular light is controlled by selecting a lighting state (e.g., ON or OFF) on the display and selecting a representation of the particular lighting load on the display (abstract).

Nowhere in Fleischmann or Reed is it suggested that a fiber optic illumination device as disclosed in Reed should replace an ordinary office light as disclosed in Fleischmann. In fact, as stated above, Fleischmann discloses nothing more than conventional lighting fixtures; Reed only suggests that fiber optic illumination devices are advantageous for use in Christmas trees, where

such fiber optic illumination devices permit LEDs illumination sources to be located in the branches of the Christmas tree, such that less fiber is used than in conventional trees where the illumination sources are located in the base of the tree.

Therefore, the combination of Fleischmann and Reed is improper because there is lack of motivation to modify Fleischmann in the manner suggested in the Office Action. As such the combination of Fleischmann and Reed fails the first criterion for establishing *prima facie* obviousness according to MPEP §2143. Therefore claim 109 is patentable over the combinations of Fleischmann and Reed.

II. Claim 115

New independent claim 115 includes a combination of the subject matter of original independent claim 1 and dependent claim 10. In section 12 of the Office Action, dependent claim 10 was rejected under 35 U.S.C. §103 as allegedly being obvious over Pyle or Fleischmann in view of U.S. Patent No. 6,361,198 to Rochat, et al. (hereinafter Rochat). The Applicants traverse this rejection. Accordingly, the Applicant discusses the patentability of independent claim 115 by addressing the rejection of dependent claim 10 as set forth in the Office Action. Claim 115 also clarifies that the sequence authoring interface is adapted to permit the user to select a starting color to be displayed by the lighting unit at a first time and an ending color to be displayed by the lighting unit at a second time for an at least one selected lighting effect.

Claim 115 recites “A system for preparing a lighting sequence, comprising [*inter alia*]:
... a processor coupled to [a] display interface and supporting a sequence authoring interface adapted to permit a user to select at least one lighting effect and at least one lighting unit ... wherein the sequence authoring interface is adapted to permit the user to select a starting color to be displayed by the lighting unit at a first time and an ending color to be displayed by the lighting unit at a second time for the at least one selected lighting effect.”

The Office Action concedes that Fleischmann and Pyle fail to teach a system comprising permitting a user to select a starting color and an ending color for the lighting effect. In fact both Pyle and Fleischmann completely fail to disclose or suggest a system for preparing a lighting sequence, comprising *inter alia* a processor coupled to the display interface and supporting a sequence authoring interface adapted to permit a user to select a starting color to be displayed by

the lighting unit at a first time and an ending color to be displayed by the lighting unit at a second time for the at least one selected lighting effect, as recited in new claim 115.

However, the Office Action alleges that, in Fig. 5 of Rochat and col. 6, lines 45-60, Rochat discloses art analogous to Fleischmann and Pyle including a starting color and an ending color for a lighting effect. The Office Action then alleges that one of ordinary skill in the art would have been motivated to combine either Fleischmann or Pyle with Rochat because Rochat teaches an interface that enhances the ease of color selection and manipulation in a computer system by utilizing display graphics to assist in the visualization of the available color selections, and that further advantages of Rochat generally apply to increased accuracy, predictability and ease of use of the interface (col. 4, lines 13-68). The Applicants respectfully disagree with the foregoing assertions.

Rochat is directed to an interface system that allows a user to select and control colors used in graphic images generated by a computer system (abstract). Accordingly, Rochat discloses a system for rendering two-dimensional graphic images on a computer screen, not for controlling the projection light for the purpose of illumination of a room, like Pyle. The portion of Rochat to which the Office Action refers discloses a system for specifying a first color at a first location on a two-dimensional display (i.e., a start color), and a second color at a second location on a two-dimensional display (i.e., an end color), such that a continuous shading can be provided between the first location and the second location. Accordingly, the start location and the end location are spatially separated, and do not in any way relate to projection of light or color lighting effect from a lighting unit.

The Applicants respectfully submit that new claim 115 as amended is patentable over the combinations of Pyle and Rochat or Fleischmann and Rochat because at least the second obviousness criterion specified in MPEP §2143 is not met; namely Pyle, Fleischmann and Rochat, alone or in any combination, fail to teach or suggest all of the features recited in the Applicants' claim 115.

Firstly, as the Office Action acknowledges, both Pyle and Fleischmann fail to teach a system (or method) in which an LED is capable of emitting light of any of a range of different colors, and wherein the sequence authoring interface is adapted to permit the user to select a color of light emitted by the LED; more specifically, neither Pyle nor Fleischmann discloses "a system for preparing a lighting sequence, comprising *inter alia* a display interface adapted to

display a grid, wherein the sequence authoring interface is adapted to permit the user to select a starting color to be displayed by the lighting unit at a first time and an ending color to be displayed by the lighting unit at a second time for the at least one selected lighting effect,” as recited in new claim 115.

Secondly, Rochat does not disclose a system for preparing a lighting sequence, comprising *inter alia* “A system for preparing a lighting sequence, comprising [*inter alia*]: … a processor coupled to [a] display interface and supporting a sequence authoring interface adapted to permit a user to select at least one lighting effect and at least one lighting unit … wherein the sequence authoring interface is adapted to permit the user to select a starting color to be displayed by the lighting unit at a first time and an ending color to be displayed by the lighting unit at a second time for the at least one selected lighting effect,” as recited in amended claim 115. Instead, Rochat discloses a start color to be displayed at a first location in a graphic image and an end color to be displayed at a second location in a graphic image. The first location and second location have no correspondence to time, nor does the information displayed on the screen permit a user to select a color to be displayed by the lighting unit, as recited in claim 115. The information displayed on the computer screen in Rochat is nothing more than a representation of a two-dimensional image.

Accordingly, none of Pyle, Fleischmann and Rochat discloses a sequence authoring interface that is adapted to permit the user to select a starting color to be displayed by the lighting unit at a first time and an ending color to be displayed by the lighting unit at a second time for the at least one selected lighting effect. Therefore, the combination of either Pyle and Rochat or Fleischmann and Rochat fails at least the second criterion for establishing *prima facie* obviousness according to MPEP §2143. New claim 115 therefore is patentable over both the combinations of Pyle and Rochat and Fleischmann and Rochat.

In view of the foregoing, and for the sake of brevity, the Applicants submit that it is not necessary to discuss the impropriety of combining Pyle and Rochat or Fleischmann and Rochat based on lack of motivation or lack of reasonable expectation of success according to the other obviousness criteria set forth in MPEP §2143. However, the Applicants reserve the right to argue that the combinations of Pyle and Rochat and Fleischmann and Rochat indeed are improper based on either or both of these criteria, if deemed necessary in the future.

Accordingly, claim 115 is patentable over the combinations of Pyle and Rochat, and Fleischmann and Rochat.

III. Claim 116

New independent claim 116 includes a combination of the subject matter of original independent claim 1 and dependent claim 11. In section 8 of the Office Action, dependent claim 11 was rejected under 35 U.S.C. §102(e) over Pyle. The Applicants traverse this rejection. Accordingly, the Applicant discusses the patentability of new independent claim 116 by addressing the rejection of dependent claim 11 as set forth in the Office Action. Claim 116, also clarifies that first lighting effect and the second lighting effects are dynamic lighting effects.

The Office Action alleges that Pyle teaches a method and system for preparing a lighting sequence capable of being executed by a controller (Abstract). Further, the Office Action alleges the sequence authoring interface is adapted to permit the user to specify a transition effect between a first lighting effect and a second lighting effect (Fig. 3-5; col. 5, lines 14-45).

Claim 116 recites “A system for preparing a lighting sequence, comprising: ... a processor coupled to [a] display interface and supporting a sequence authoring interface ...wherein the sequence authoring interface is adapted to permit the user to select a transition effect for a transition between a first dynamic lighting effect and a second dynamic lighting effect.” Support for such an arrangement is given for example at page 6, line 30 et seq., where an example of a first dynamic lighting effect is given in the Applicants’ specification as a pulse effect and a second dynamic lighting effect is given as a dimmer effect; and between the two lighting effects a transition effect is given as a pulse sequence that grows dimmer.

By contrast, Pyle does not disclose a transition effect for a transition between a first *dynamic lighting effect* and a second *dynamic lighting effect*. At most, Pyle discloses a transition effect (i.e., a dimming effect) that occurs between a first static effect (a light on at a first brightness) and a second static effect (a light that is OFF). Accordingly, claim 116 is patentable over Pyle.

IV. Claim 117

New independent claim 117 includes a combination of the subject matter of original independent claim 1 and dependent claim 12. In section 13 of the Office Action, dependent claim 12 was rejected under 35 U.S.C. §103 as allegedly being obvious over Pyle or Fleischmann in view of U.S. Patent No. 5,945,993 to Akaza, et al. (hereinafter Akaza). The Applicants traverse this rejection. Accordingly, the Applicant discusses the patentability of independent claim 117 by addressing the rejection of dependent claim 12 as set forth in the Office Action.

Claim 117 recites “A system for preparing a lighting sequence, comprising: a display interface adapted to display first information representative of a plurality of lighting effects; and a processor ... supporting a sequence authoring interface adapted to permit a user to select at least one lighting effect and at least one lighting unit to execute the at least one selected lighting effect, based on the displayed first information, wherein the sequence authoring interface is adapted to permit the user to specify a priority for a first lighting effect which shares a temporal overlap with a second lighting effect.”

The Office Action concedes that Fleischmann and Pyle fail to teach a system which permits the user to specify a priority for a first lighting effect which temporally overlaps with a second lighting effect. In fact, both Pyle and Fleischmann completely fail to disclose or suggest a system for preparing a lighting sequence, comprising *inter alia* a processor coupled to the display interface and supporting a sequence authoring interface adapted to permit the user to specify a priority for a first lighting effect which shares a temporal overlap with a second lighting effect.

However, the Office Action alleges that Akaza teaches a system which permits the user to specify a priority for a first lighting effect which temporally overlaps with a second lighting effect (Col. 9, lines 50-67). The Applicants respectfully disagree.

Akaza is directed to a graph display device including a section for inputting functional expression data and a graph display section for displaying the expression data in a selected color (abstract). In the graph display section, a graph is produced in a same color as the color selected for the expression data (abstract). Akaza teaches that by displaying graphs in different colors, it is possible to display multiple graphs in a visibly distinct manner (col. 1, lines 36-40). Akaza further teaches that, if two graphs on the computer screen spatially overlap, the color in which

the region of overlap is displayed is determined by pre-selected priority of the colors (col. 9, lines 50-55).

The Applicants respectfully submit that new claim 117 is patentable over the combinations of Pyle and Akaza or Fleischmann and Akaza because at least the second obviousness criterion specified in MPEP §2143 is not met; namely Pyle, Fleischmann and Akaza, alone or in any combination, fail to teach or suggest all of the features recited in each of the Applicants' claim 117.

Firstly, as the Office Action acknowledges, both Pyle and Fleischmann fail to teach a system which permits the user to specify a priority for a first lighting effect which temporally overlaps with a second lighting effect; more specifically neither Pyle nor Fleischmann discloses a system for preparing a lighting sequence, comprising *inter alia* a display interface adapted to permit the user to specify a priority for a first lighting effect which shares a temporal overlap with a second lighting effect, as recited in new claim 117.

Secondly, Akaza does not disclose a system for preparing a lighting sequence, comprising *inter alia* "A system for preparing a lighting sequence, comprising [*inter alia*]: ... A system for preparing a lighting sequence, comprising [*inter alia*]: ... a processor coupled to [a] display interface and supporting a sequence authoring interface adapted to permit a user to select at least one lighting effect and at least one lighting unit ... wherein the sequence authoring interface is adapted to permit the user to specify a priority for a first lighting effect which shares a temporal overlap with a second lighting effect." More specifically, Akaza does not disclose selecting a priority among first and second lighting effects to be executed by a lighting unit. Instead, Akaza merely discloses that the colors displayed on a computer screen can be prioritized. That is, when two graphs of different overlap on a computer screen, one is selected as the "priority" and that graph is displayed on the computer screen. Accordingly, none of Pyle, Fleischmann and Akaza discloses a processor supporting a sequence authoring interface adapted to permit a user to specify a priority for a first lighting effect which shares a temporal overlap with a second lighting effect, as recited in claim 117. Thus, the combination of either Pyle and Akaza or Fleischmann and Akaza fails at least the second criterion for establishing *prima facie* obviousness according to MPEP §2143. New claim 117 therefore is patentable over both the combinations of Pyle and Akaza and Fleischmann and Akaza.

In view of the foregoing, and for the sake of brevity, the Applicants submit that it is not necessary to discuss the impropriety of combining Pyle and Akaza or Fleischmann and Akaza based on lack of motivation or lack of reasonable expectation of success according to the other obviousness criteria set forth in MPEP §2143. However, the Applicants reserve the right to argue that the combinations of Pyle and Akaza and Fleischmann and Akaza indeed are improper based on either or both of these criteria, if deemed necessary in the future.

Accordingly, claim 117 is patentable over the combinations of Pyle and Akaza, and Fleischmann and Akaza.

V. Claim 121

New independent claim 121 includes a combination of the subject matter of original independent claim 1 and dependent claim 14. As discussed above, in section 8 and 9 of the Office Action, dependent claim 14 was rejected under 35 U.S.C. §102(e) over Pyle and Fleischmann. The Applicants respectfully disagree with these rejections. Accordingly, the Applicant discusses the patentability of new independent claim 121 by addressing the rejection of former dependent claim 14 as set forth in the Office Action. In claim 121 the subject matter clarifies that a stimulus used to alter execution of a lighting effect is non-human.

Claim 121 recites “A system for preparing a lighting sequence, comprising [*inter alia*]: ... a processor coupled to [a] display interface and supporting a sequence authoring interface adapted to permit a user to select at least one lighting effect and at least one lighting unit ... wherein the sequence authoring interface is adapted to permit the user to provide instructions to alter an execution of the at least one selected lighting effect based upon at least one non-human, external stimulus.” Support for such an arrangement is given in the Applicants’ specification, for example, at page 9, line 20 et seq., where examples of an external stimulus are given as a light sensor and a temperature sensor.

A. Claim 121 is patentable over Pyle

The Office Action alleges that Pyle teaches a system wherein the sequence authoring interface is adapted to permit a user to provide instructions to execute and optionally alter the lighting effect based upon at least one external stimulus (col. 5, lines 46-60 of Pyle).

At the location cited in the Office Action, Pyle refers to FIG. 6 of Pyle and discloses the lighting system may be implemented in a distributed computer system. Each computer comprising the system has a processor and input/output devices and user interface components 604, which interact with user control point devices 605. Accordingly, in the cited portion, Pyle at most discloses that user inputs can be accepted to control the lighting system. By contrast, claim 121 recites that “the sequence authoring interface is adapted to permit [a] user to provide instructions to alter an execution of the at least one selected lighting effect based upon at least one non-human, external stimulus.” Accordingly, a user input provides instructions such that a non-human, external stimulus can alter execution of a lighting effect. While Pyle discloses a system adapted to permit a user input, the interface is not adapted such that, subsequent to the user input, a non-human, external stimulus can alter the execution of a lighting effect.

Accordingly, claim 121 is patentable over Pyle.

B. Claim 121 is patentable over Fleischmann

The Office Action alleges that Fleischmann teaches a system wherein the sequence authoring interface is adapted to permit a user to provide instructions to execute and optionally alter the lighting effect based upon at least one external stimulus (col. 5, lines 36-col. 6, line 61).

At the location cited in the Office Action, Fleischmann discloses a lighting system having a virtual switch (e.g., radio buttons, sliders, or scroll bars) which can be manipulated by a user to adjust intensity or other lighting states. By contrast, claim 121 recites that the sequence authoring interface is adapted to permit a user to provide instructions to alter an execution of the at least one selected lighting effect based upon at least one non-human, external stimulus. For example, the external stimulus may be a measured light characteristic or a measured temperature.

Further, claim 121 recites that sequence authoring interface is adapted to permit a user to provide instructions to alter execution based upon an external stimulus. In Fleischmann, a user does not provide instructions to alter execution based on a stimulus. Instead, the system is Fleischmann is pre-configured (e.g., by a programmer of the underlying computer program) to be altered thought a human input.

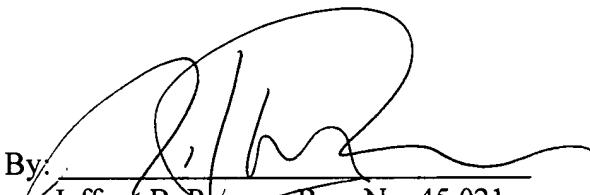
Accordingly, claim 121 is patentable over Fleischmann.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762.

Respectfully submitted,
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